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ARMY ELECTRONICS RESEARCH AND DEVELOPMENT COMMAND WS--ETC F/G 4/2  
14822B LANCE, MISSILE NUMBER 4390, ROUND NUMBER 334-AST.(U)  
JUN 79

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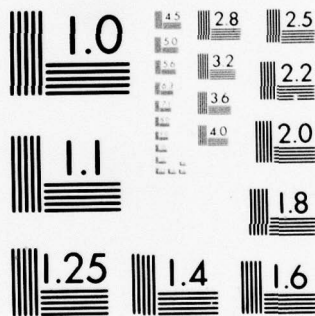
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METEOROLOGICAL DATA REPORT

14822B LANCE  
Missile No. 4390  
Round No. 334-AST  
28 June 1979

by

White Sands Meteorological Team

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ATMOSPHERIC SCIENCES LABORATORY  
WHITE SANDS MISSILE RANGE, NEW MEXICO

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UNITED STATES ARMY ELECTRONICS COMMAND

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1. TITLE (Include Project, Task, or Report Number)	
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## INTRODUCTION

14822B LANCE Missile Number 4390, Round Number 334AST, was launched from LC-39, White Sands Missile Range (WSMR), New Mexico, at 1203 MDT, 28 June 1979. The scheduled launch time was 1200 MDT.

## DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

### 1. Observations

#### a. Surface

(1) Standard surface observations to include pressure, temperature ( $^{\circ}\text{C}$ ), relative humidity, dew point ( $^{\circ}\text{C}$ ), density ( $\text{gm}/\text{m}^3$ ), wind direction and speed, and cloud cover were made at the LC-39 Met Site at T-0 minutes.

(2) Monitor of wind speed and direction from one anemometer was provided in the launch control room.

#### b. Upper Air

(1) Low level wind data were obtained from RAPTS T-3 pibal observation at:

## SITE AND ALTITUDE

LC-39	2160 Meters	1148 MDT
LC-39	3660 Meters	1203 MDT

(2) Air structure data (rawinsonde) were collected at the following Met Sites. Data were collected from surface to as high as possible feet in 500-foot increments.

## SITE AND TIME

WSD	1050 MST
SMR	0930 MST



TABLE 1. Surface Observation Taken At LC-39  
28 June 1979 at 1203 MDT, 14822B LANCE  
Missile No. 4390, Round No. 334 AST.

ELEVATION	4063.75	FT/MSL
PRESSURE	881.7	MBS
TEMPERATURE	34.0	°C
RELATIVE HUMIDITY	23	%
DEW POINT	10.0	°C
DENSITY	991	GM/M <sup>3</sup>
WIND SPEED		MPH
WIND DIRECTION	Calm	DEGREES
CLOUD COVER	1	AC



TABLE 2. PILOT-BALLOON-MEASURED WIND DATA (30-METER INCREMENTS)

HEIGHT METERS AGL	DIRECTION DEGREES	SPEED MPH
SFC	CALM	
30	017	1.0
60	033	1.5
90	049	2.0
120	065	2.5
150	093	2.5
180	120	2.5
210	147	2.5
240	174	2.0
270	179	3.5
300	183	4.5
330	188	5.5
360	192	6.5

HEIGHT METERS AGL	DIRECTION DEGREES	SPEED MPH
390	193	6.5
420	193	6.0
450	194	6.0
480	194	5.5
510	199	6.0
540	203	6.5
570	208	7.0
600	212	7.5
630	210	7.0
660	208	6.5
690	206	6.0
720	204	5.0
750	208	5.5

Release Point Coordinates (WSTM): X486,037.24 Y486,037.24 H3977.30

Released from LC-39 on 28 June 1979 at 1148 MDT.

Type 14822B Lance, Missile No. 4390, Round No. 334 AST launched from LC-39 on 28 June 1979 at 1203 MDT.

NOTE: Wind directions are referenced to the firing azimuth or true north true north.

HEIGHT METERS AGL	DIRECTION DEGREES	SPEED MPH
780	212	6.0
810	216	6.5
840	219	7.0
870	231	7.5
900	242	8.0
930	254	8.5
960	265	8.5
990	271	9.0
1020	276	9.0
1050	281	9.5
1080	286	9.5
1110	297	9.5
1140	308	9.0
1170	319	9.0
1200	329	8.5
1230	331	9.0
1260	333	9.5
1290	335	10.0
1320	336	10.0
1350	341	10.0
1380	345	9.5
1410	350	9.0

HEIGHT METERS AGL	DIRECTION DEGREES	SPEED MPH
1440	354	8.5
1470	359	9.0
1500	003	9.0
1530	007	9.0
1560	011	9.0
1590	014	9.5
1620	017	10.0
1650	020	10.5
1680	022	11.0
1710	024	12.0
1740	026	12.5
1770	028	13.5
1800	030	14.0
1830	033	14.0
1860	036	14.0
1890	039	14.0
1920	042	14.0
1950	042	14.5
1980	042	14.5
2010	042	14.5
2040	042	14.5
2070	041	15.0

HEIGHT METERS AGL	DIRECTION DEGREES	SPEED MPH
2100	040	15.5
2130	039	16.0
2160	038	16.0
2190		
2220		
2250		
2280		
2310		
2340		
2370		
2400		
2430		
2460		
2490		
2520		
2550		
2580		
2610		
2640		
2670		
2700		
2730		

HEIGHT METERS AGL	DIRECTION DEGREES	SPEED MPH
2760		
2790		
2820		
2850		
2880		
2910		
2940		
2970		
3000		
3030		
3060		
3090		
3120		
3150		
3180		
3210		
3240		
3270		
3300		
3330		
3360		
3390		



TABLE 3. PILOT-BALLOON-MEASURED WIND DATA (30-METER INCREMENTS)

HEIGHT METERS AGL	DIRECTION DEGREES	SPEED MPH
SFC	CALM	
30	CALM	
60	CALM	
90	CALM	
120	CALM	
150	122	1.0
180	153	1.5
210	184	2.5
240	215	3.0
270	226	4.0
300	236	4.5
330	246	5.0
360	256	5.5

HEIGHT METERS AGL	DIRECTION DEGREES	SPEED MPH
390	254	5.5
420	251	5.5
450	249	5.5
480	246	5.5
510	252	5.0
540	257	4.5
570	263	4.0
600	268	3.5
630	267	4.5
660	266	5.5
690	265	6.5
720	264	7.0
750	265	7.0

Release Point Coordinates (WSTM): X486,037.24 Y436,037.24 H3977.30

Released from LC-39 on 28 June 1979 at 1203 MDT.

Type 14822B LANCE, Missile No. 4390, Round No. 334 AST launched from LC-39 on 28 June 1979 at 1203 MDT.

NOTE: Wind directions are referenced to the firing azimuth or true north true north.



HEIGHT METERS AGL	DIRECTION DEGREES	SPEED MPH
780	266	7.0
810	267	7.0
840	267	<b>6.5</b>
870	279	<b>6.5</b>
900	240	6.0
930	302	6.0
960	313	5.5
990	323	6.0
1020	333	6.0
1050	343	6.0
1080	353	6.0
1110	355	6.5
1140	356	7.0
1170	357	7.5
1200	358	7.5
1230	358	8.0
1260	357	8.0
1290	356	8.5
1320	355	8.5
1350	357	8.5
1380	359	8.0
1410	001	8.0

HEIGHT METERS AGL	DIRECTION DEGREES	SPEED MPH
1440	002	7.5
1470	003	7.5
1500	003	7.5
1530	003	7.5
1560	003	7.0
1590	007	8.0
1620	011	8.5
1650	015	9.0
1680	019	9.5
1710	021	10.5
1740	023	11.5
1770	025	12.5
1800	026	13.5
1830	030	13.5
1860	033	13.5
1890	036	13.5
1920	039	13.0
1950	039	13.5
1980	038	13.5
2010	038	14.0
2040	037	14.0
2070	037	15.0

HEIGHT METERS AGL	DIRECTION DEGREES	SPEED MPH
2100	036	15.5
2130	036	16.0
2160	035	16.5
2190	034	17.0
2220	033	17.5
2250	032	18.0
2280	031	18.0
2310	033	18.5
2340	035	19.0
2370	037	19.5
2400	038	20.0
2430	040	20.0
2460	042	20.0
2490	044	20.0
2520	046	19.5
2550	047	19.0
2580	048	18.5
2610	049	18.0
2640	050	17.0
2670	049	17.0
2700	048	17.0
2730	047	17.0

HEIGHT METERS AGL	DIRECTION DEGREES	SPEED MPH
2760	046	16.5
2790	045	16.5
2820	043	16.0
2850	042	16.0
2880	040	15.5
2910	041	16.0
2940	041	16.5
2970	041	17.0
3000	041	17.0
3030	042	18.0
3060	042	18.5
3090	043	19.0
3120	043	19.5
3150	044	19.0
3180	045	18.5
3210	046	18.0
3240	046	17.5
3270	048	18.0
3300	049	18.5
3330	051	19.0
3360	052	19.0
3390	052	19.5





STATION ALTITUDE 3949.00 FEET MSL  
28 JUNE 79  
ASCENSION NO. 298

SIGNIFICANT LEVEL DATA  
1700020298  
WHITE SANDS

GEODEIC COORDINATES  
32.40043 LAT DEG  
106.37033 LONG DEG

PRESSURE	GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT
883.8	3949.0	33.6	22.0
873.4	4337.8	30.2	19.0
850.0	5131.3	28.9	19.0
823.0	6067.3	25.7	21.0
700.0	10658.1	15.7	29.0
593.0	15188.9	4.0	44.0
551.4	17114.6	-1.6	54.0
527.4	18273.9	-4.8	68.0
511.6	19053.6	-6.8	58.0
500.0	19646.7	-7.9	56.0
488.4	20245.7	-9.1	24.0
429.8	23466.7	-14.3	13.0
422.8	23976.1	-14.6	12.0
400.0	25248.8	-17.9	12.0
324.2	30295.9	-30.1	13.0
300.0	32099.7	-34.0	
273.0	34250.6	-39.4	
250.0	36218.7	-43.3	
200.0	41055.2	-53.6	
150.0	46993.9	-64.9	
143.4	47394.0	-66.8	
113.0	52654.9	-65.9	
100.0	55063.4	-69.2	
91.8	56767.2	-69.9	
70.0	62184.5	-63.1	
50.0	69154.8	-55.0	
43.0	72339.0	-55.1	
35.2	76610.8	-50.4	
30.0	80071.7	-48.9	
24.0	84917.8	-49.2	



STATION ALTITUDE 3989.00 FEET MSL  
28 JUNE 79 1050 HRS MST  
ASCENSION NO. 298

UPPER AIR DATA  
1790020296  
WHITE SANDS

GEODETIC COORDINATES  
32.40043 LAT DEG  
116.57033 LONG DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES DEWPOINT DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION, DEGREES (T)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
3989.0	883.8	33.6	22.0	998.8	684.0	219.1	0.0	1.000289
4000.0	883.5	33.5	21.9	998.8	683.9	219.1	0.0	1.000268
4500.0	868.6	29.9	3.8	994.8	679.4	219.1	1.6	1.000255
5000.0	853.8	29.1	19.0	990.7	678.5	219.1	3.1	1.000250
5500.0	839.3	27.6	2.5	968.8	676.8	219.1	4.6	1.000247
6000.0	824.9	25.9	1.9	957.6	674.8	220.9	6.0	1.000243
6500.0	810.5	24.8	1.5	944.8	673.5	227.7	6.2	1.000240
7000.0	796.4	23.7	1.1	931.7	672.2	271.5	6.7	1.000236
7500.0	782.5	22.6	0.7	918.9	671.0	290.9	7.2	1.000233
8000.0	768.8	21.5	0.3	906.2	669.7	320.8	7.3	1.000229
8500.0	755.3	20.4	-1.1	893.7	668.5	341.2	8.1	1.000226
9000.0	742.1	19.3	-6.6	881.4	667.2	351.2	8.9	1.000222
9500.0	729.2	18.2	-1.1	869.3	666.0	0.0	9.7	1.000219
10000.0	716.4	17.1	-1.6	857.3	664.7	0.0	10.3	1.000216
10500.0	703.9	16.0	-2.1	845.6	663.4	14.4	11.6	1.000212
11000.0	691.3	14.8	-2.5	834.0	662.0	13.7	13.1	1.000209
11500.0	678.8	13.5	-2.9	822.5	660.5	20.4	14.2	1.000206
12000.0	666.4	12.2	-3.4	811.3	659.0	22.8	14.8	1.000203
12500.0	654.4	10.9	-3.9	800.3	657.3	25.3	14.8	1.000200
13000.0	642.5	9.7	-4.4	789.4	655.0	29.0	14.8	1.000197
13500.0	630.8	8.4	-5.0	778.7	654.3	32.0	14.8	1.000194
14000.0	619.4	7.1	-5.6	768.1	652.9	33.2	14.5	1.000191
14500.0	608.1	5.8	-6.2	757.7	651.4	34.1	14.3	1.000188
15000.0	597.1	4.5	-6.9	747.3	649.9	34.4	14.0	1.000184
15500.0	586.1	3.1	-7.5	737.4	648.2	37.1	14.0	1.000182
16000.0	575.1	1.6	-9.1	727.5	646.3	41.4	14.2	1.000179
16500.0	564.3	0.2	-8.8	717.7	644.8	49.3	14.5	1.000176
17000.0	553.8	-1.3	-9.5	708.1	643.0	57.3	15.2	1.000173
17500.0	543.3	-2.7	-9.6	698.3	641.4	65.1	16.0	1.000171
18000.0	533.0	-4.0	-9.7	688.5	639.7	70.7	16.5	1.000169
18500.0	522.8	-5.4	-10.9	678.8	638.1	74.0	15.7	1.000165
19000.0	512.8	-6.7	-13.4	669.2	636.5	73.7	14.7	1.000161
19500.0	502.9	-7.6	-14.7	659.6	635.3	84.8	13.6	1.000157
20000.0	493.1	-8.6	-20.6	649.8	633.9	100.4	10.9	1.000151
20500.0	483.5	-9.5	-26.7	638.5	632.7	121.2	9.4	1.000146
21000.0	474.0	-10.3	-23.2	628.0	631.7	123.8	8.5	1.000143
21500.0	464.7	-11.1	-27.7	617.3	630.7	122.2	8.0	1.000140
22000.0	455.6	-11.9	-31.3	607.3	629.8	108.4	6.3	1.000136
22500.0	446.6	-12.7	-33.0	597.3	628.8	100.4	9.7	1.000135
23000.0	437.8	-13.5	-34.8	587.4	627.8	100.8	10.5	1.000133

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UPPER AIR DATA  
1790020298  
WHITE SANDS

STATION ALTITUDE 989.00 FEET MSL  
28 JUNE 79 1050 HRS MST  
ASCENSION NO. 298

GEOMETRIC COORDINATES  
32.40043 LAT DEG  
106.37033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM <sup>3</sup> WATER	SPEED OF SOUND MOTS	WIND DATA DIRECTION, DEGREES (T.M.)	SPEED KNOTS	INDEX OF REFRACTION
23500.0	429.2	-14.3	12.9	577.6	620.9	104.7	11.1	1.000130
24000.0	420.7	-14.9	12.0	567.4	620.1	109.0	11.7	1.000128
24500.0	412.3	-16.1	12.0	558.6	624.7	124.0	11.3	1.000126
25000.0	404.0	-17.3	12.0	550.0	623.2	140.8	11.7	1.000124
25500.0	395.8	-18.5	12.0	541.4	621.7	152.5	11.6	1.000122
26000.0	387.7	-19.7	12.1	532.8	620.2	163.5	11.9	1.000120
26500.0	379.7	-20.9	12.2	524.4	618.8	163.0	11.7	1.000118
27000.0	371.9	-22.1	12.3	516.0	617.3	172.3	11.6	1.000116
27500.0	364.2	-23.3	12.4	507.9	615.8	174.8	11.4	1.000114
28000.0	356.7	-24.6	12.5	499.8	614.3	177.4	11.2	1.000112
28500.0	349.4	-25.8	12.6	491.9	612.8	180.0	11.0	1.000110
29000.0	342.2	-27.0	12.7	484.1	611.3	181.9	10.6	1.000109
29500.0	335.1	-28.2	12.8	476.5	609.8	179.8	10.0	1.000107
30000.0	328.2	-29.4	12.9	469.0	608.3	173.6	9.4	1.000105
30500.0	321.4	-30.5	11.5**	461.4	606.8	160.5	9.1	1.000103
31000.0	314.5	-31.6	7.9**	453.0	605.3	167.6	8.9	1.000101
31500.0	307.8	-32.7	4.3**	446.0	604.1	203.1	9.1	1.000099
32000.0	301.3	-33.8	.7**	439.2	602.7	214.7	9.6	1.000098
32500.0	294.8	-35.0		431.2	601.2	230.9	10.6	1.000096
33000.0	288.4	-36.3		424.1	599.5	243.4	11.6	1.000094
33500.0	282.1	-37.5		417.1	598.0	243.7	12.5	1.000093
34000.0	276.0	-38.8		410.3	596.4	247.9	14.1	1.000091
34500.0	270.0	-39.9		403.2	595.0	245.3	15.9	1.000090
35000.0	264.0	-40.9		396.0	593.7	243.0	19.1	1.000088
35500.0	258.2	-41.9		388.9	592.5	244.9	22.3	1.000087
36000.0	252.5	-42.9		381.9	591.2	243.9	23.0	1.000085
36500.0	246.8	-43.9		375.0	589.8	242.8	23.2	1.000084
37000.0	241.1	-45.0		368.2	588.4	245.0	23.0	1.000082
37500.0	235.6	-46.1		361.5	587.0	243.5	22.7	1.000081
38000.0	230.3	-47.2		355.0	585.6	251.1	22.6	1.000079
38500.0	225.0	-48.3		348.6	584.2	253.0	22.5	1.000078
39000.0	219.9	-49.3		342.3	582.8	254.0	22.0	1.000076
39500.0	214.9	-50.4		336.1	581.4	253.9	20.9	1.000075
40000.0	210.0	-51.5		330.0	580.0	257.0	19.8	1.000074
40500.0	205.2	-52.6		324.1	578.6	260.0	18.6	1.000072
41000.0	200.5	-53.7		318.3	577.1	262.9	17.9	1.000071
41500.0	195.7	-54.8		312.0	575.9	263.0	17.8	1.000069
42000.0	191.1	-55.6		305.9	574.7	242.7	18.7	1.000068
42500.0	186.5	-56.5		299.9	573.4	235.5	20.1	1.000067
43000.0	182.0	-57.4		293.9	572.2	234.2	21.2	1.000065

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

UPPER AIR DATA  
1790020298  
WHITE SANDS

STATION ALTITUDE 3989.00 FEET MSL  
28 JUNE 79  
ASLENSION NO. 298

GEODLTIC COORDINATES  
32.40043 LAT DEG  
106.37033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GY/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION, SPEED DEGREES(TN) KNOTS	INDEX OF REFRACTION
43500.0	177.7	-58.4		288.2	570.9	234.1	1.000064
44000.0	173.4	-59.3		282.5	569.7	242.7	1.000063
44500.0	169.3	-60.2		276.9	568.5	253.5	1.000062
45000.0	165.2	-61.2		271.5	567.2	263.1	1.000060
45500.0	161.3	-62.1		266.2	566.0	268.7	1.000059
46000.0	157.4	-63.0		261.0	564.7	263.3	1.000058
46500.0	153.6	-64.0		255.9	563.4	229.5	1.000057
47000.0	150.0	-64.9		250.9	562.2	190.3	1.000056
47500.0	146.3	-66.0		245.9	560.9	187.6	1.000055
48000.0	142.6	-66.8		240.6	559.7	185.1	1.000054
48500.0	139.1	-66.7		234.7	559.8	183.5	1.000052
49000.0	135.7	-66.6		228.8	559.9	190.3	1.000051
49500.0	132.3	-66.5		223.1	560.0	210.6	1.000050
50000.0	129.1	-66.4		217.5	560.2	223.6	1.000048
50500.0	125.9	-66.3		212.0	560.3	227.4	1.000047
51000.0	122.8	-66.2		206.7	560.4	230.3	1.000046
51500.0	119.7	-66.1		201.5	560.5	226.2	1.000045
52000.0	116.8	-66.0		196.4	560.7	223.7	1.000044
52500.0	113.9	-65.9		191.4	560.8	223.1	1.000043
53000.0	111.1	-65.4		187.1	560.2	230.3	1.000042
53500.0	108.3	-67.0		183.0	559.3	241.0	1.000041
54000.0	105.6	-67.7		179.1	558.4	247.1	1.000040
54500.0	103.0	-68.4		175.2	557.4	250.9	1.000039
55000.0	100.4	-69.1		171.4	556.5	190.4	1.000038
55500.0	97.9	-69.4		167.4	555.1	155.1	1.000037
56000.0	95.4	-69.6		163.3	553.6	143.0	1.000036
56500.0	93.1	-69.8		159.4	553.0	143.4	1.000035
57000.0	90.7	-69.6		155.3	553.0	143.0	1.000035
57500.0	88.5	-69.0		151.0	556.7	142.4	1.000034
58000.0	86.3	-68.4		146.8	557.5	103.4	1.000033
58500.0	84.2	-67.7		142.7	555.4	66.6	1.000032
59000.0	82.1	-67.1		138.6	559.2	48.7	1.000031
59500.0	80.1	-66.5		135.0	560.1	35.8	1.000030
60000.0	78.1	-65.8		131.2	560.9	27.3	1.000029
60500.0	76.2	-65.2		127.0	561.6	31.3	1.000028
61000.0	74.3	-64.0		124.1	562.0	41.0	1.000028
61500.0	72.4	-64.0		120.0	563.3	57.2	1.000027
62000.0	70.7	-63.3		117.3	564.3	89.0	1.000026
62500.0	68.9	-62.7		114.1	565.1	127.6	1.000025
63000.0	67.3	-62.2		111.1	565.9	140.5	1.000025



STATION ALTITUDE 3989.00 FEET MSL  
28 JUNE 79 1050 HRS MST  
ASCENSION NO. 298

UPPER AIR DATA  
1790020293  
WHITE SANDS

GEODETIC COORDINATES  
32.40043 LAT DEG  
106.37033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GW/CUBIC METER	SPEED OF SOUND KNOTS	WIND DIRECTION DEGREES (TN)	WIND SPEED KNOTS	INDEX OF REFRACTION
63500.0	65.7	-61.6		108.2	560.7	167.0	7.9	1.000024
64000.0	64.1	-61.0		105.3	567.4	165.3	8.4	1.000023
64500.0	62.6	-60.4		102.5	568.2	179.7	6.2	1.000023
65000.0	61.1	-59.8		99.8	569.0	160.4	4.1	1.000022
65500.0	59.6	-59.2		97.1	569.3	123.2	3.1	1.000022
66000.0	58.2	-58.7		94.0	570.5	93.3	3.4	1.000021
66500.0	56.8	-58.1		92.1	571.3	71.8	4.4	1.000021
67000.0	55.5	-57.5		89.0	572.1	77.0	6.4	1.000020
67500.0	54.2	-56.9		87.3	572.9	84.8	8.7	1.000019
68000.0	52.9	-56.3		84.9	573.0	80.1	11.2	1.000019
68500.0	51.6	-55.8		82.7	574.4	79.7	14.0	1.000018
69000.0	50.4	-55.2		80.5	575.4	74.1	17.0	1.000018
69500.0	49.2	-55.0		78.6	575.4	71.0	19.3	1.000017
70000.0	48.0	-55.0		76.7	575.4	69.9	20.2	1.000017
70500.0	46.9	-55.0		74.9	575.3	69.9	21.1	1.000017
71000.0	45.8	-55.1		73.2	575.3	70.8	20.9	1.000016
71500.0	44.7	-55.1		71.5	575.3	77.1	19.4	1.000016
72000.0	43.7	-55.1		69.8	575.3	84.4	18.2	1.000016
72500.0	42.7	-54.9		68.1	575.3	89.4	17.6	1.000015
73000.0	41.7	-54.4		66.4	576.2	91.5	17.3	1.000015
73500.0	40.7	-53.8		64.7	577.0	93.7	17.1	1.000014
74000.0	39.8	-53.3		63.0	577.7	93.8	17.2	1.000014
74500.0	38.9	-52.7		61.4	578.4	92.3	17.6	1.000014
75000.0	38.0	-52.2		59.8	579.1	90.8	18.0	1.000013
75500.0	37.1	-51.6		58.3	579.8	90.4	18.8	1.000013
76000.0	36.2	-51.1		56.8	580.6	90.0	19.9	1.000013
76500.0	35.4	-50.5		55.4	581.3	90.9	20.9	1.000012
77000.0	34.6	-50.2		54.0	581.7	92.7	22.8	1.000012
77500.0	33.8	-50.0		52.7	581.9	93.1	24.5	1.000012
78000.0	33.0	-49.8		51.5	582.2	97.1	26.6	1.000011
78500.0	32.3	-49.6		50.3	582.3	93.9	26.4	1.000011
79000.0	31.5	-49.4		49.1	582.8	92.9	25.1	1.000011
79500.0	30.8	-49.1		47.9	583.1	89.6	23.9	1.000011
80000.0	30.1	-48.9		46.8	583.4	85.4	21.9	1.000010
80500.0	29.4	-48.9		45.7	583.4	79.9	19.6	1.000010
81000.0	28.7	-49.0		44.7	583.3	73.0	17.5	1.000010
81500.0	28.1	-49.0		43.7	583.3	70.4	16.2	1.000010
82000.0	27.5	-49.0		42.7	583.2	68.4	20.7	1.000009
82500.0	26.8	-49.1		41.7	583.2	95.9	23.8	1.000009
83000.0	26.2	-49.1		40.8	583.2			1.000009



STATION ALTITUDE 3989.00 FEET NSL		UPPER AIR DATA		GEODETIC COORDINATES	
28 JUNE 79		1790020296		32.40043 LAT DEG	
ASCENSION NO. 298		WHITE SANDS		106.37033 LONG DEG	

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
63500.0	25.6	-49.1			39.8	583.1			1.000009
64000.0	25.0	-49.1			36.9	583.1			1.000009
64500.0	24.5	-49.2			36.1	583.0			1.000008

STATION ALTITUDE 3989.00 FEET MSL  
 28 JUNE 79 1050 HRS MST  
 ASCENSION NO. 298

MPN SIGNIFICANT LEVEL DATA  
 1790020298  
 WHITE SANDS

GEODETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LON DEG

GEOPOTENTIAL ALTITUDE DECAMETERS	DIRECTION DEG (TN)	WIND DATA		E-W MPS	DEW PT DEP DEG C	TEMPERATURE		PRESSURE MILLIBARS
		SPEED MPS	N-S MPS			AIR DEG C		
2577.	9999.**	9999.**	-9999.**	-9999.**	99	-49.2	2.400+1	
2430.	85.	11.	-1.	-11.	99	-48.9	3.000+1	
2325.	91.	11.	0.	-11.	99	-50.4	3.520+1	
2196.	89.	9.	-0.	-9.	99	-55.1	4.300+1	
2100.	73.	9.	-3.	-9.	99	-55.0	5.000+1	
1884.	105.	4.	1.	-3.	99	-63.1	7.000+1	
1725.	146.	4.	3.	-2.	99	-69.9	9.180+1	
1674.	178.	1.	1.	-0.	99	-69.2	1.000+2	

\*\* WIND DATA NOT COMPUTED DUE TO MISSING RAW AZIMUTH AND ELEVATION ANGLES.

STATION ALTITUDE 9989.00 FEET MSL  
 28 JUNE 79 1050 HRS MST  
 ASCENSION NO. 298

MANDATORY LEVELS  
 1790020298  
 WHITE SANDS

GEODETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LON DEG

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE		DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	5127.	28.9	3.0	19.	219.1	3.5
800.0	6877.	23.9	1.2	22.	265.2	6.8
750.0	8713.	20.0	-3	26.	345.7	8.4
700.0	10647.	15.7	-2.3	29.	15.8	12.0
650.0	12691.	10.5	-4.1	36.	27.0	14.7
600.0	14857.	4.8	-6.7	43.	34.3	14.1
550.0	17159.	-1.8	-9.7	55.	60.2	15.4
500.0	19618.	-7.9	-15.1	56.	88.0	12.9
450.0	22232.	-12.4	-32.4	17.	100.3	9.4
400.0	25206.	-17.9	-40.3	12.	145.3	11.6
350.0	28432.	-25.7	-46.1	13.	179.9	11.0
300.0	32034.	-34.0			222.8	9.7
250.0	36138.	-43.3			243.5	23.1
200.0	40954.	-53.8			263.1	17.9
175.0	43736.	-59.0			239.3	19.1
150.0	46865.	-64.9			197.7	7.2
125.0	50488.	-66.3			226.4	5.6
100.0	54911.	-69.2			181.6	1.4
80.0	59295.	-66.4			36.3	14.2
70.0	61969.	-63.1			102.1	9.8
60.0	65108.	-59.4			138.3	3.2
50.0	68692.	-55.0			73.0	17.7
40.0	73574.	-53.4			94.4	17.1
30.0	79726.	-48.9			85.1	21.8
25.0	83652.	-49.1				

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.



STATION ALTITUDE 3985.00 FEET MSL  
 28 JUNE 79 1050 HRS MST  
 ASCENSION NO. 298

MRN MANDATORY LEVELS  
 1790020298  
 WHITE SANDS

GEODETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LON DEG

GEOPOTENTIAL ALTITUDE DECIMETERS	DIRECTION DEG (TH)	SPEED MPS	WIND DATA		E-W MPS	DEW PT DEG C	TEMPERATURE		PRESSURE MILLIBARS
			N-S MPS				AIR DEG C		
2550.	9999.**	9999.**	-9999.**	-9999.**	-9999.**	99	-49.1		2.500+1
2430.	85.	11.	-1.	-1.	-1.	99	-48.9		3.000+1
2243.	94.	9.	1.	1.	-9.	99	-53.4		4.000+1
2100.	73.	9.	-3.	-3.	-9.	99	-55.0		5.000+1
1985.	138.	2.	1.	1.	-1.	99	-59.4		6.000+1
1889.	102.	3.	1.	1.	-3.	99	-63.1		7.000+1
1607.	37.	7.	-6.	-6.	-4.	99	-66.4		8.000+1
1674.	182.	1.	1.	1.	0.	99	-69.2		1.000+2
1539.	228.	3.	2.	2.	2.	99	-66.3		1.250+2
1428.	198.	4.	4.	4.	1.	99	-64.9		1.500+2
1333.	239.	10.	5.	5.	8.	99	-59.0		1.750+2
1248.	263.	9.	1.	1.	9.	99	-53.8		2.000+2
1101.	243.	12.	5.	5.	11.	99	-43.3		2.500+2
970.	223.	5.	4.	4.	3.	99	-34.0		3.000+2
867.	160.	6.	6.	6.	-0.	20	-25.7		3.500+2
766.	146.	6.	5.	5.	-3.	22	-17.9		4.000+2
679.	100.	5.	1.	1.	-5.	20	-12.4		4.500+2
596.	88.	7.	-0.	-0.	-7.	07	-7.9		5.000+2
523.	60.	8.	-4.	-4.	-7.	09	-1.8		5.500+2
453.	34.	7.	-6.	-6.	-4.	12	4.8		6.000+2
387.	27.	8.	-7.	-7.	-3.	15	10.5		6.500+2
325.	16.	6.	-6.	-6.	-2.	18	15.7		7.000+2
200.	346.	4.	-4.	-4.	1.	20	20.0		7.500+2
210.	265.	3.	0.	0.	3.	25	23.9		8.000+2
156.	219.	2.	1.	1.	1.	26	26.9		8.500+2

\*\* WIND DATA NOT COMPUTED DUE TO MISSING RAW AZIMUTH AND ELEVATION ANGLES.

STATION ALTITUDE 3997.30 FEET MSL  
28 JUNE 79 0930 HRS MST  
ASCENSION NO. 214

SIGNIFICANT LEVEL DATA  
1790060214  
S M R

GEODETIC COORDINATES  
32.48034 LAT DEG  
106.42307 LON DEG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE	REL. HUM. PERCENT
883.1	3997.3	31.5	11.3
850.0	5111.3	25.5	6.2
815.0	6123.4	25.0	5.7
727.4	9556.6	17.4	1.4
700.0	10630.7	15.6	1.0
618.6	14024.5	6.9	-7.9
551.0	17100.2	-2.3	-9.4
515.5	18324.2	-7.5	-11.1
500.0	19605.4	-8.4	-14.0
479.6	20664.6	-10.5	-27.1
464.6	21467.5	-11.3	-30.3
428.0	23518.9	-16.3	-36.6
413.6	24356.2	-16.3	-36.6
400.0	25190.0	-18.6	-39.5
378.2	26557.3	-21.1	-41.4
358.8	27826.3	-25.4	-45.0
327.2	30004.9	-30.8	-48.8
300.0	32017.0	-34.7	
250.0	36127.0	-44.2	
200.0	40944.1	-54.7	
150.0	46843.8	-66.8	
141.4	48019.4	-67.2	
100.0	54077.0		
83.0	55368.6	-67.2	
70.0	61296.6	-62.9	
50.4	66415.5	-60.5	
50.0	68309.9	-57.8	
38.8	74239.8	-54.3	
33.8	77201.9	-48.6	
30.0	79797.4	-48.4	
25.4	83409.5	-50.0	
20.0	86655.3	-43.5	
16.2	93394.7	-39.0	
13.6	97369.3	-30.0	

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STATION ALTITUDE 3997.30 FEET MSL  
28 JUNE 79 0930 HRS MST  
ASCENSION NO. 214

UPPER AIR DATA  
179060214  
S M R

GEODETTIC COORDINATES  
32.48034 LAT DEG  
106.42307 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	TEMPERATURE DewPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GW/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION (TN) DEGREES	SPEED KNOTS	INDEX OF REFRACTION
3997.3	883.1	31.5	11.3	29.0	1004.0	681.9	.0	.0	1.000279
4000.0	883.0	31.5	11.3	29.0	1004.0	681.9	223.5	.0	1.000279
4500.0	868.0	28.8	9.0	29.0	936.4	678.7	223.5	1.2	1.000270
5000.0	853.3	26.1	6.7	29.0	999.0	675.4	223.5	2.4	1.000262
5500.0	838.6	25.3	6.0	29.0	974.6	674.5	223.5	3.6	1.000257
6000.0	824.2	25.1	5.9	29.0	939.3	674.3	223.5	4.8	1.000253
6500.0	810.0	24.6	5.5	29.3	943.7	673.8	238.2	5.8	1.000249
7000.0	795.9	23.4	4.9	30.0	931.0	672.3	256.9	7.5	1.000245
7500.0	782.0	22.2	4.2	30.8	918.5	670.9	269.2	8.8	1.000241
8000.0	768.3	21.1	3.6	31.6	906.2	669.5	280.2	9.5	1.000236
8500.0	754.9	19.9	2.9	32.4	894.1	668.1	291.5	9.6	1.000232
9000.0	741.8	18.7	2.2	33.1	882.2	666.6	306.1	9.1	1.000228
9500.0	728.8	17.5	1.5	33.9	870.4	665.4	325.3	9.2	1.000224
10000.0	715.0	16.7	1.2	35.2	857.6	664.4	345.9	10.3	1.000221
10500.0	703.3	15.8	1.0	36.6	844.3	663.4	359.2	11.8	1.000218
11000.0	690.6	14.7	.0	36.7	833.2	662.0	8.6	13.3	1.000214
11500.0	678.2	13.4	-1.3	36.2	822.0	660.5	12.1	13.6	1.000209
12000.0	665.9	12.1	-2.6	35.8	811.0	658.9	14.4	13.5	1.000204
12500.0	653.9	10.8	-3.9	35.3	800.1	657.4	17.5	13.4	1.000200
13000.0	642.1	9.5	-5.2	34.9	789.4	655.8	20.6	13.3	1.000196
13500.0	630.5	8.2	-6.5	34.5	776.3	654.2	24.9	13.2	1.000192
14000.0	619.2	7.0	-7.8	34.0	763.4	652.7	29.1	13.1	1.000188
14500.0	607.6	5.5	-7.8	37.7	753.1	651.0	37.3	12.5	1.000186
15000.0	596.3	4.0	-8.1	41.6	743.0	649.2	49.3	12.2	1.000183
15500.0	585.2	2.5	-8.1	45.5	738.0	647.5	55.1	12.6	1.000181
16000.0	574.3	1.0	-8.4	49.4	726.2	645.7	60.8	13.4	1.000179
16500.0	563.6	-.5	-8.8	53.3	713.6	643.9	61.4	14.5	1.000176
17000.0	553.1	-2.0	-9.3	57.2	709.1	642.2	63.0	15.5	1.000174
17500.0	542.6	-3.5	-9.7	61.9	699.5	640.4	65.8	16.6	1.000171
18000.0	532.2	-5.0	-10.2	65.9	690.0	638.6	68.4	17.2	1.000169
18500.0	522.0	-6.5	-10.7	71.8	680.7	636.8	71.0	17.0	1.000166
19000.0	512.0	-7.7	-11.9	71.3	670.7	635.3	74.5	16.4	1.000163
19500.0	502.1	-8.3	-14.1	62.9	659.3	634.5	79.5	15.0	1.000158
20000.0	492.3	-9.2	-13.3	47.2	649.0	633.3	83.4	13.6	1.000152
20500.0	482.7	-10.2	-24.5	29.8	639.0	632.0	85.9	12.1	1.000147
21000.0	473.3	-10.8	-26.4	21.9	628.2	631.1	89.5	11.0	1.000143
21500.0	464.0	-11.4	-30.4	18.9	617.3	630.4	93.9	10.6	1.000140
22000.0	454.8	-12.6	-31.9	18.0	607.9	629.0	100.5	10.8	1.000138
22500.0	445.8	-13.6	-33.5	17.0	598.7	627.5	108.1	11.7	1.000135
23000.0	437.0	-15.0	-35.1	16.0	589.0	626.0	110.5	12.6	1.000133



STATION ALTITUDE 9997.30 FEET MSL  
28 JUNE 79 0930 HRS MST  
ASCENSION NO. 214

UPPER AIR DATA  
1790060214  
S M R

GEODETIC COORDINATES  
32.48034 LAT DEG  
106.42307 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	DEWPOINT DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
23500.0	429.3	-16.3	-36.7	15.0	580.7	624.5	109.2	13.3	1.000131
24000.0	419.8	-16.3	-36.8	15.0	569.2	624.4	112.5	13.3	1.000128
24500.0	411.4	-16.7	-37.3	14.8	558.7	623.9	119.9	13.0	1.000126
25000.0	403.1	-18.2	-38.9	14.2	550.7	622.1	129.2	12.7	1.000124
25500.0	395.0	-19.3	-40.0	14.0	542.0	620.7	141.6	12.3	1.000122
26000.0	385.9	-20.2	-40.6	14.0	534.7	619.7	151.9	12.6	1.000120
26500.0	379.1	-21.0	-41.3	14.0	523.7	618.7	155.6	12.9	1.000118
27000.0	371.5	-22.6	-42.6	14.0	516.2	616.7	158.9	13.1	1.000116
27500.0	363.7	-24.3	-44.0	14.0	509.1	614.6	161.6	12.7	1.000114
28000.0	356.2	-25.8	-45.3	14.1	501.6	612.7	163.4	12.1	1.000112
28500.0	348.7	-27.1	-46.1	14.3	493.6	611.2	163.1	10.7	1.000111
29000.0	341.4	-28.3	-47.0	14.5	485.7	609.6	165.7	9.5	1.000109
29500.0	334.5	-29.5	-47.9	14.8	478.0	608.1	173.9	9.1	1.000107
30000.0	327.5	-30.8	-48.8	15.0	470.4	606.5	184.2	8.9	1.000105
30500.0	320.5	-31.8	-52.0	11.3**	462.2	605.3	190.1	9.4	1.000103
31000.0	313.5	-32.7	-56.1	7.6**	454.2	604.1	207.6	9.5	1.000101
31500.0	306.8	-33.7	-62.0	3.9**	446.5	602.8	221.9	9.0	1.000099
32000.0	300.2	-34.7	-84.9	.1**	438.5	601.5	234.3	8.9	1.000098
32500.0	293.6	-35.8			431.0	600.2	241.6	9.0	1.000096
33000.0	287.2	-37.0			423.6	598.7	246.6	10.0	1.000094
33500.0	280.9	-38.1			416.4	597.2	247.0	12.8	1.000093
34000.0	274.7	-39.3			409.2	595.8	248.1	15.3	1.000091
34500.0	268.7	-40.4			402.3	594.5	250.8	17.2	1.000090
35000.0	262.6	-41.6			395.4	592.8	252.9	18.7	1.000088
35500.0	257.1	-42.6			388.7	591.3	254.4	18.2	1.000087
36000.0	251.4	-43.9			382.1	589.9	250.0	17.9	1.000085
36500.0	245.7	-45.0			375.2	588.4	258.0	19.4	1.000084
37000.0	240.1	-46.1			368.4	587.0	259.5	21.0	1.000082
37500.0	234.6	-47.2			361.7	585.6	260.3	22.9	1.000081
38000.0	229.2	-48.3			355.1	584.2	260.6	24.7	1.000079
38500.0	224.0	-49.4			348.7	582.8	258.2	23.7	1.000078
39000.0	218.8	-50.5			342.4	581.4	255.7	22.7	1.000076
39500.0	213.8	-51.6			336.2	579.9	254.1	20.5	1.000075
40000.0	208.9	-52.6			330.1	578.5	252.3	18.3	1.000074
40500.0	204.2	-53.7			324.1	577.1	253.4	18.2	1.000072
41000.0	199.5	-54.8			318.2	575.6	254.6	18.0	1.000071
41500.0	194.7	-55.8			312.0	574.3	251.7	16.0	1.000069
42000.0	190.0	-56.9			306.0	572.9	248.4	18.1	1.000068
42500.0	185.4	-57.9			300.0	571.6	247.0	18.5	1.000067
43000.0	180.9	-58.9			294.2	570.2	246.0	18.9	1.000066

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3997.30 FEET MSL  
29 JUNE 79  
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GEODETIC COORDINATES  
32.48034 LAT DEG  
106.42307 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
43500.0	176.6	-59.9		283.5	563.8	250.1	19.3	1.000064
44000.0	172.9	-61.0		282.9	567.5	253.0	19.9	1.000063
44500.0	168.2	-62.0		277.4	566.1	259.6	18.5	1.000062
45000.0	164.1	-63.0		272.1	564.7	263.9	16.0	1.000061
45500.0	160.2	-64.0		265.8	563.4	267.7	11.5	1.000059
46000.0	155.3	-65.1		261.7	562.0	267.4	5.2	1.000058
46500.0	152.5	-66.1		256.6	560.6	264.4	2.9	1.000057
47000.0	148.8	-66.9		251.3	559.6	184.7	5.8	1.000056
47500.0	145.1	-67.0		245.3	559.3	184.8	8.7	1.000055
48000.0	141.5	-67.2		239.4	559.1	193.8	11.0	1.000053
48500.0	138.0	-67.3		233.8	558.9	207.4	13.3	1.000052
49000.0	134.6	-67.5		228.0	558.7	213.5	11.5	1.000051
49500.0	131.2	-67.7		222.4	558.5	221.7	9.9	1.000050
50000.0	127.9	-67.8		217.0	558.3	220.5	8.3	1.000048
50500.0	124.7	-68.0		211.8	558.1	213.8	6.6	1.000047
51000.0	121.6	-68.1		206.7	557.8	210.4	5.0	1.000046
51500.0	118.6	-68.3		201.7	557.6	194.2	3.6	1.000045
52000.0	115.6	-68.4		196.8	557.4	189.0	2.8	1.000044
52500.0	112.8	-68.6		192.0	557.2	177.7	2.0	1.000043
53000.0	109.9	-68.7		187.4	557.0	172.1	1.6	1.000042
53500.0	107.2	-68.9		182.8	556.8	177.4	1.4	1.000041
54000.0	104.5	-69.0		178.4	556.6	163.2	1.4	1.000040
54500.0	101.9	-69.2		174.1	556.4	173.6	1.8	1.000039
55000.0	99.4	-69.2		169.8	556.3	163.0	2.3	1.000038
55500.0	96.9	-68.9		165.3	556.7	163.2	3.2	1.000037
56000.0	94.5	-68.7		161.0	557.1	164.1	4.4	1.000036
56500.0	92.1	-68.4		156.7	557.5	161.8	3.8	1.000035
57000.0	89.8	-68.1		152.6	557.9	102.1	.5	1.000034
57500.0	87.6	-67.8		148.6	558.3	359.9	3.6	1.000033
58000.0	85.4	-67.5		144.7	558.6	3.9	9.8	1.000032
58500.0	83.3	-67.2		140.9	559.0	5.1	15.9	1.000031
59000.0	81.2	-66.7		137.1	559.8	14.7	16.9	1.000030
59500.0	79.2	-66.0		133.3	560.7	25.8	17.4	1.000029
60000.0	77.3	-65.4		129.0	561.5	42.6	16.0	1.000028
60500.0	75.4	-64.8		126.1	562.4	69.3	15.1	1.000027
61000.0	73.6	-64.2		122.8	563.2	90.6	15.9	1.000026
61500.0	71.7	-63.5		119.2	564.1	102.7	14.4	1.000025
62000.0	70.0	-62.9		116.0	564.9	110.9	13.6	1.000024
62500.0	68.3	-62.6		113.0	565.3	118.3	12.0	1.000023
63000.0	66.6	-62.4		110.1	565.6	116.2	10.2	1.000022

STATION ALTITUDE 397.30 FEET MSL  
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UPPER AIR DATA  
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GEODETTIC COORDINATES  
32.48034 LAT DEG  
106.42307 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CELSIUS	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
63500.0	65.0	-62.1		107.3	566.0	114.9	8.8	1.000024
64000.0	63.5	-61.8		104.6	566.3	121.2	9.5	1.000023
64500.0	61.9	-61.5		102.0	566.7	126.6	10.3	1.000023
65000.0	60.4	-61.3		99.4	567.1	129.9	10.7	1.000022
65500.0	59.0	-61.0		96.9	567.4	131.7	10.5	1.000022
66000.0	57.6	-60.7		94.4	567.3	133.0	10.2	1.000021
66500.0	56.2	-60.4		92.0	568.2	131.4	9.5	1.000020
67000.0	54.8	-59.9		89.6	568.9	127.7	8.7	1.000020
67500.0	53.5	-59.3		87.2	569.7	122.6	7.9	1.000019
68000.0	52.2	-58.8		84.9	570.4	113.0	7.2	1.000019
68500.0	51.0	-58.2		82.7	571.1	102.1	6.9	1.000018
69000.0	49.8	-57.7		80.5	571.8	87.0	8.1	1.000018
69500.0	48.6	-57.4		78.5	572.2	76.0	11.1	1.000017
70000.0	47.5	-57.1		76.5	572.5	69.8	14.3	1.000017
70500.0	46.4	-56.8		74.6	573.1	72.9	16.3	1.000017
71000.0	45.3	-56.4		72.8	573.5	76.5	18.2	1.000016
71500.0	44.2	-56.1		70.9	574.0	79.4	20.1	1.000016
72000.0	43.2	-55.8		69.2	574.4	60.8	20.6	1.000015
72500.0	42.1	-55.4		67.4	574.8	82.1	21.1	1.000015
73000.0	41.2	-55.1		65.8	575.3	83.0	21.5	1.000015
73500.0	40.2	-54.8		64.1	575.7	82.3	21.3	1.000014
74000.0	39.2	-54.5		62.5	576.1	81.6	21.1	1.000014
74500.0	38.3	-53.8		60.9	577.0	81.3	21.2	1.000014
75000.0	37.5	-52.8		59.2	578.2	81.7	21.5	1.000013
75500.0	36.6	-51.9		57.6	579.3	82.0	21.9	1.000013
76000.0	35.7	-50.9		56.0	580.8	82.3	22.7	1.000012
76500.0	34.9	-50.0		54.5	582.0	82.5	23.9	1.000012
77000.0	34.1	-49.0		53.0	583.3	82.7	25.2	1.000012
77500.0	33.3	-48.6		51.7	583.9	83.2	26.0	1.000012
78000.0	32.5	-48.5		50.5	583.9	84.0	26.5	1.000011
78500.0	31.8	-48.5		49.4	583.9	84.7	27.0	1.000011
79000.0	31.1	-48.5		48.2	584.0	87.6	27.2	1.000011
79500.0	30.4	-48.4		47.1	584.0	91.8	27.4	1.000010
80000.0	29.7	-48.5		46.1	583.9	95.9	27.7	1.000010
80500.0	29.0	-48.7		45.1	583.6	98.1	27.0	1.000010
81000.0	28.4	-48.9		44.1	583.4	99.5	25.7	1.000010
81500.0	27.7	-49.2		43.1	583.1	101.1	24.5	1.000010
82000.0	27.1	-49.4		42.2	582.8	99.2	23.7	1.000009
82500.0	26.5	-49.6		41.3	582.5	95.6	23.2	1.000009
83000.0	25.9	-49.8		40.4	582.2	92.0	22.8	1.000009



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28 JUNE 79  
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GEODETIC COORDINATES  
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106.42307 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM <sup>3</sup> METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
83500.0	25.3	-49.9		39.5	582.1	90.4	22.7	1.000009
84000.0	24.7	-49.3		38.5	582.9	69.6	22.5	1.000009
84500.0	24.2	-48.6		37.5	583.7	68.8	22.4	1.000008
85000.0	23.6	-48.0		36.5	584.5	69.3	22.4	1.000008
85500.0	23.1	-47.4		35.5	585.3	90.2	22.4	1.000008
86000.0	22.5	-46.6		34.7	586.1	91.1	22.4	1.000008
86500.0	22.1	-46.2		33.9	586.9	91.6	23.5	1.000008
87000.0	21.6	-45.6		33.0	587.7	91.6	24.9	1.000007
87500.0	21.1	-44.9		32.2	588.5	92.1	26.3	1.000007
88000.0	20.6	-44.3		31.4	589.3	90.2	27.4	1.000007
88500.0	20.1	-43.7		30.6	590.1	87.7	28.3	1.000007
89000.0	19.7	-43.2		29.8	590.8	85.3	29.3	1.000007
89500.0	19.3	-42.7		29.1	591.4	83.2	30.5	1.000006
90000.0	18.8	-42.2		28.4	592.0	81.2	31.9	1.000006
90500.0	18.4	-41.7		27.7	592.6	79.4	33.2	1.000006
91000.0	18.0	-41.3		27.1	593.2	77.7	34.4	1.000006
91500.0	17.6	-40.8		26.4	593.8	76.0	35.4	1.000006
92000.0	17.2	-40.3		25.8	594.4	74.4	36.4	1.000006
92500.0	16.9	-39.8		25.2	595.0	74.8	37.4	1.000006
93000.0	16.5	-39.4		24.6	595.7	78.0	38.3	1.000005
93500.0	16.1	-39.0		24.0	596.1	81.0	39.4	1.000005
94000.0	15.8	-39.0		23.5	596.1	84.1	40.3	1.000005
94500.0	15.4	-39.0		23.0	596.1	88.0	40.2	1.000005
95000.0	15.1	-39.0		22.5	596.1	91.8	40.4	1.000005
95500.0	14.8	-39.0		22.0	595.1			1.000005
96000.0	14.4	-39.0		21.5	596.1			1.000005
96500.0	14.1	-39.0		21.0	596.1			1.000005
97000.0	13.8	-39.0		20.6	596.1			1.000005

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MRN SIGNIFICANT LEVEL DATA  
1790060214  
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GEODETIC COORDINATES  
32.48034 LAT DEG  
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GEOPOTENTIAL ALTITUDE DECAMETERS	DIRECTION DEG (TN)	SPEED MPS	WIND DATA		E-W MPS	DEW PT DEP DEG C	TEMPERATURE		PRESSURE MILLIBARS
			N-S MPS	TEMPERATURE AIR DEG C					
2953.	9999.**	9999.**	-9999.**	-9999.**	-9999.**	99	-39.0	1.360+1	
2833.	80.	20.	-3.	-20.	-20.	99	-39.0	1.620+1	
2689.	87.	15.	-1.	-15.	-15.	99	-43.5	2.000+1	
2531.	51.	12.	0.	-12.	-12.	99	-50.0	2.540+1	
2422.	94.	14.	1.	-14.	-14.	99	-48.4	3.000+1	
2343.	83.	13.	-2.	-13.	-13.	99	-48.6	3.380+1	
2254.	81.	11.	-2.	-11.	-11.	99	-54.3	3.880+1	
2092.	90.	4.	-0.	-4.	-4.	99	-57.8	5.000+1	
2017.	132.	5.	3.	-4.	-4.	99	-60.5	5.640+1	
1883.	117.	7.	3.	-6.	-6.	99	-62.9	7.000+1	
1779.	5.	9.	-9.	-1.	-1.	99	-67.2	8.300+1	
1667.	169.	1.	1.	-0.	-0.	99	-69.3	1.000+2	

\*\* WIND DATA NOT COMPUTED DUE TO MISSING RAW AZIMUTH AND ELEVATION ANGLES.

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STATION ALTITUDE 3997.30 FEET MSL  
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MANDATORY LEVELS  
1790060214  
S M R

GEODETIC COORDINATES  
32.48034 LAT DEG  
106.42307 LON DEG

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.	WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEWPOINT CENTIGRADE	PERCENT	DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	5108.	25.5	6.2	29.	223.5	2.7
800.0	6852.	23.8	5.1	30.	252.4	7.0
750.0	8687.	19.4	2.6	33.	296.9	9.3
700.0	10620.	15.6	1.0	37.	1.8	12.1
650.0	12664.	10.4	-4.3	35.	18.7	13.3
600.0	14628.	7.0	-7.8	40.	43.3	12.2
550.0	17125.	-2.4	-9.5	58.	63.8	15.8
500.0	19577.	-8.4	-14.6	61.	80.5	14.8
450.0	22236.	-13.2	-32.9	17.	104.6	11.3
400.0	25147.	-18.8	-39.5	14.	133.6	12.5
350.0	28365.	-26.9	-46.0	14.	163.1	10.9
300.0	31952.	-34.7			234.3	8.9
250.0	36047.	-44.2			256.5	18.2
200.0	40844.	-54.7			254.4	18.0
175.0	43611.	-60.3			252.0	19.6
150.0	46716.	-66.8			188.9	4.7
125.0	50321.	-67.9			219.0	8.8
100.0	54707.	-69.3			169.4	2.1
80.0	59166.	-66.3			20.8	17.1
70.0	61782.	-62.9			115.9	13.6
60.0	64910.	-61.2			130.3	10.6
50.0	68649.	-57.6			91.1	7.5
40.0	73300.	-54.7			82.2	21.3
30.0	79454.	-45.4			93.9	27.5
25.0	83377.	-49.6			90.1	22.6
20.0	88235.	-43.5			67.1	28.6
15.0	94664.	-39.0			92.5	40.4

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.



STATION ALTITUDE 3997.30 FEET MSL  
28 JUNE 79 0930 HRS MST  
ASCENSION NO. 214

MRN MANDATORY LEVELS  
1790060214  
S M R

STATION ALTITUDE 3997.30 FEET MSL  
28 JUNE 79 0930 HRS MST  
ASCENSION NO. 214

GEODETTIC COORDINATES  
32.48034 LAT DEG  
106.42307 LON DEG

GEOPOTENTIAL ALTITUDE DECAMETERS	DIRECTION DEG (TN)	WIND DATA SPEED MPS	N-S MPS	E-W MPS	DEW PT DEP DEG C	TEMPERATURE		PRESSURE MILLIBARS
						AIR DEG C		
2885.	93.	21.	1.	-21.	99	-39.0		1.500+1
2689.	87.	15.	-1.	-15.	99	-43.5		2.000+1
2541.	90.	12.	0.	-12.	99	-49.6		2.500+1
2422.	94.	14.	1.	-14.	99	-48.4		3.000+1
2234.	82.	11.	-1.	-11.	99	-54.7		4.000+1
2092.	91.	4.	0.	-4.	99	-57.8		5.000+1
1978.	130.	5.	4.	-4.	99	-61.2		6.000+1
1883.	116.	7.	3.	-6.	99	-62.9		7.000+1
1602.	21.	9.	-8.	-3.	99	-66.3		8.000+1
1667.	169.	1.	1.	-0.	99	-69.3		1.000+2
1534.	219.	3.	3.	2.	99	-67.9		1.250+2
1424.	189.	2.	2.	0.	99	-66.8		1.500+2
1329.	252.	10.	3.	10.	99	-60.3		1.750+2
1245.	254.	9.	2.	9.	99	-54.7		2.000+2
1099.	256.	9.	2.	9.	99	-44.2		2.500+2
974.	234.	5.	3.	4.	99	-34.7		3.000+2
865.	163.	6.	5.	-2.	19	-26.9		3.500+2
766.	134.	6.	4.	-5.	21	-18.8		4.000+2
676.	105.	6.	1.	-6.	20	-13.2		4.500+2
597.	81.	6.	-1.	-8.	06	-8.4		5.000+2
522.	64.	8.	-4.	-7.	07	-2.4		5.500+2
452.	43.	6.	-5.	-4.	12	4.5		6.000+2
386.	19.	7.	-7.	-2.	15	10.4		6.500+2
324.	2.	6.	-3.	0.	15	15.6		7.000+2
265.	297.	5.	-2.	4.	17	19.4		7.500+2
209.	252.	4.	1.	3.	19	23.8		8.000+2
156.	224.	1.	1.	1.	19	25.5		8.500+2